



BioMap and Living Waters

Guiding Land Conservation for Biodiversity in Massachusetts

Core Habitats of Gosnold

This report and associated map provide information about important sites for biodiversity conservation in your area.

This information is intended for conservation planning, and is not intended for use in state regulations.

Produced by:
Natural Heritage & Endangered Species Program
Massachusetts Division of Fisheries and Wildlife
Executive Office of Environmental Affairs
Commonwealth of Massachusetts

Produced in 2004



BioMap and Living Waters:

Guiding Land Conservation for Biodiversity in Massachusetts

Table of Contents

Introduction

What is a Core Habitat?

Core Habitats and Land Conservation

In Support of Core Habitats

Understanding Core Habitat Species, Community, and Habitat Lists

What's in the List?

What does 'Status' mean?

Understanding Core Habitat Summaries

Next Steps

Protecting Larger Core Habitats

Additional Information

Local Core Habitat Information*

BioMap: Species and Natural Communities

BioMap: Core Habitat Summaries

Living Waters: Species and Habitats

Living Waters: Core Habitat Summaries

* Depending on the location of Core Habitats, your city or town may not have all of these sections.

Spring Salamander
(*Gyrinophilus porphyriticus*)
Species of Special Concern



Funding for this project was made available by the Executive Office of Environmental Affairs, contributions to the Natural Heritage & Endangered Species Fund, and through the State Wildlife Grants Program of the US Fish & Wildlife Service.



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org



BioMap and Living Waters:

Guiding Land Conservation for Biodiversity in Massachusetts

Introduction

In this report, the Natural Heritage & Endangered Species Program provides you with site-specific biodiversity information for your area. Protecting our biodiversity today will help ensure the full variety of species and natural communities that comprise our native flora and fauna will persist for generations to come.

The information in this report is the result of two statewide biodiversity conservation planning projects, **BioMap** and **Living Waters**. The goal of the BioMap project, completed in 2001, was to identify and delineate the most important areas for the long-term viability of terrestrial, wetland, and estuarine elements of biodiversity in Massachusetts. The goal of the Living Waters project, completed in 2003, was to identify and delineate the rivers, streams, lakes, and ponds that are important for freshwater biodiversity in the Commonwealth. These two conservation plans are based on documented observations of rare species, natural communities, and exemplary habitats.

What is a Core Habitat?

Both BioMap and Living Waters delineate **Core Habitats** that identify the most critical sites for biodiversity conservation across the state. Core Habitats represent habitat for the state's most viable rare plant and animal populations and include exemplary natural communities and aquatic habitats. Core Habitats represent a wide diversity of rare species and natural communities (see Table 1), and these areas are also thought to contain virtually all of the other described species in Massachusetts. Statewide, BioMap Core Habitats encompass 1,380,000 acres of uplands and wetlands, and Living Waters identifies 429 Core Habitats in rivers, streams, lakes, and ponds.



Core Habitats and Land Conservation

One of the most effective ways to protect biodiversity for future generations is to protect Core Habitats from adverse human impacts through land conservation. For Living Waters Core Habitats, protection efforts should focus on the **riparian areas**, the areas of land adjacent to water bodies. A naturally vegetated buffer that extends 330 feet (100 meters) from the water's edge helps to maintain cooler water temperature and to maintain the nutrients, energy, and natural flow of water needed by freshwater species.

In Support of Core Habitats

To further ensure the protection of Core Habitats and Massachusetts' biodiversity in the long-term, the BioMap and Living Waters projects identify two additional areas that help support Core Habitats.

In BioMap, areas shown as **Supporting Natural Landscape** provide buffers around the Core Habitats, connectivity between Core Habitats, sufficient space for ecosystems to function, and contiguous undeveloped habitat for common species. Supporting Natural Landscape was



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org



BioMap and Living Waters:

Guiding Land Conservation for Biodiversity in Massachusetts

generated using a Geographic Information Systems (GIS) model, and its exact boundaries are less important than the general areas that it identifies. Supporting Natural Landscape represents potential land protection priorities once Core Habitat protection has been addressed.

In Living Waters, *Critical Supporting Watersheds* highlight the immediate portion of the watershed that sustains, or possibly degrades, each freshwater Core Habitat. These areas were also identified using a GIS model. Critical Supporting Watersheds represent developed and undeveloped lands, and can be quite large. Critical Supporting Watersheds can be helpful in land-use planning, and while they are not shown on these maps, they can be viewed in the Living Waters report or downloaded from www.mass.gov/mgis.

Understanding Core Habitat Species, Community, and Habitat Lists

What's in the List?

Included in this report is a list of the species, natural communities, and/or aquatic habitats for each Core Habitat in your city or town. The lists are organized by Core Habitat number.

For the larger Core Habitats that span more than one town, the species and community lists refer to the entire Core Habitat, not just the portion that falls within your city or town. For a list of all the state-listed rare species within your city or town's boundary, whether or not they are in Core Habitat, please see the town rare species lists available at www.nhesp.org.

The list of species and communities within a Core Habitat contains only the species and

Table 1. The number of rare species and types of natural communities explicitly included in the BioMap and Living Waters conservation plans, relative to the total number of native species statewide.

BioMap		
Biodiversity Group	Species and Verified Natural Community Types	
	Included in BioMap	Total Statewide
Vascular Plants	246	1,538
Birds	21	221 breeding species
Reptiles	11	25
Amphibians	6	21
Mammals	4	85
Moths and Butterflies	52	An estimated 2,500 to 3,000
Damselflies and Dragonflies	25	An estimated 165
Beetles	10	An estimated 2,500 to 4,000
Natural Communities	92	> 105 community types
Living Waters		
Biodiversity Group	Species	
	Included in Living Waters	Total Statewide
Aquatic Vascular Plants	23	114
Fishes	11	57
Mussels	7	12
Aquatic Invertebrates	23	An estimated > 2500

natural communities that were explicitly included in a given BioMap or Living Waters Core Habitat. Other rare species or examples of other natural communities may fall within the Core Habitat, but for various reasons are not included in the list. For instance, there are a few rare species that are omitted from the list or summary because of their particular sensitivity to the threat of collection. Likewise, the content of many very small Core Habitats are not described in this report or list, often because they contain a single location of a rare plant



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org



BioMap and Living Waters:

Guiding Land Conservation for Biodiversity in Massachusetts

species. Some Core Habitats were created for suites of common species, such as forest birds, which are particularly threatened by habitat fragmentation. In these cases, the individual common species are not listed.

What does 'Status' mean?

The Division of Fisheries and Wildlife determines a status category for each rare species listed under the Massachusetts Endangered Species Act, M.G.L. c.131A, and its implementing regulations, 321 CMR 10.00. Rare species are categorized as Endangered, Threatened, or of Special Concern according to the following:

- **Endangered** species are in danger of extinction throughout all or a significant portion of their range or are in danger of extirpation from Massachusetts.
- **Threatened** species are likely to become Endangered in Massachusetts in the foreseeable future throughout all or a significant portion of their range.
- **Special Concern** species have suffered a decline that could threaten the species if allowed to continue unchecked or occur in such small numbers or with such restricted distribution or specialized habitat requirements that they could easily become Threatened in Massachusetts.

In addition, the Natural Heritage & Endangered Species Program maintains an unofficial **watch list** of plants that are tracked due to potential conservation interest or concern, but are not regulated under the Massachusetts Endangered Species Act or other laws or regulations. Likewise, described natural communities are not regulated any laws or regulations, but they can help to identify ecologically important areas that are worthy of protection. The status of natural

Legal Protection of Biodiversity

BioMap and Living Waters present a powerful vision of what Massachusetts would look like with full protection of the land that supports most of our biodiversity. To create this vision, some populations of state-listed rare species were deemed more likely to survive over the long-term than others.

Regardless of their potential viability, all sites of state-listed species have full legal protection under the Massachusetts Endangered Species Act (M.G.L. c.131A) and its implementing regulations (321 CMR 10.00). Habitat of state-listed wildlife is also protected under the Wetlands Protection Act Regulations (310 CMR 10.37 and 10.59). The **Massachusetts Natural Heritage Atlas** shows **Priority Habitats**, which are used for regulation under the Massachusetts Endangered Species Act and Massachusetts Environmental Policy Act (M.G.L. c.30) and **Estimated Habitats**, which are used for regulation of rare wildlife habitat under the Wetlands Protection Act. For more information on rare species regulations, see the *Massachusetts Natural Heritage Atlas*, available from the Natural Heritage & Endangered Species Program in book and CD formats.

BioMap and Living Waters are conservation planning tools and do not, in any way, supplant the Estimated and Priority Habitat Maps which have regulatory significance. Unless and until the combined BioMap and Living Waters vision is fully realized, we must continue to protect all populations of our state-listed species and their habitats through environmental regulation.

communities reflects the documented number and acreages of each community type in the state:

- **Critically Imperiled** communities typically have 5 or fewer documented sites or have very few remaining acres in the state.
- **Imperiled** communities typically have 6-20 sites or few remaining acres in the state.
- **Vulnerable** communities typically have 21-100 sites or limited acreage across the state.
- **Secure** communities typically have over 100 sites or abundant acreage across the state; however excellent examples are identified as Core Habitat to ensure continued protection.



Natural Heritage & Endangered Species Program

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org



BioMap and Living Waters:

Guiding Land Conservation for Biodiversity in Massachusetts

Understanding Core Habitat Summaries

Following the BioMap and Living Waters Core Habitat species and community lists, there is a descriptive summary of each Core Habitat that occurs in your city or town. This summary highlights some of the outstanding characteristics of each Core Habitat, and will help you learn more about your city or town's biodiversity. You can find out more information about many of these species and natural communities by looking at specific *fact sheets* at www.nhesp.org.

Next Steps

BioMap and Living Waters were created in part to help cities and towns prioritize their land protection efforts. While there are many reasons to conserve land – drinking water protection, recreation, agriculture, aesthetics, and others – BioMap and Living Waters Core Habitats are especially helpful to municipalities seeking to protect the rare species, natural communities, and overall biodiversity within their boundaries. Please use this report and map along with the rare species and community fact sheets to appreciate and understand the biological treasures in your city or town.

Protecting Larger Core Habitats

Core Habitats vary considerably in size. For example, the average BioMap Core Habitat is 800 acres, but Core Habitats can range from less than 10 acres to greater than 100,000 acres. These larger areas reflect the amount of land needed by some animal species for breeding, feeding, nesting, overwintering, and long-term survival. Protecting areas of this size can be

very challenging, and requires developing partnerships with neighboring towns.

Prioritizing the protection of certain areas within larger Core Habitats can be accomplished through further consultation with Natural Heritage Program biologists, and through additional field research to identify the most important areas of the Core Habitat.

Additional Information

If you have any questions about this report, or if you need help protecting land for biodiversity in your community, the Natural Heritage & Endangered Species Program staff looks forward to working with you.

Contact the Natural Heritage & Endangered Species Program:

by Phone 508-792-7270, Ext. 200

by Fax: 508-792-7821

by Email: natural.heritage@state.ma.us.

by Mail: North Drive
Westborough, MA 01581

The GIS datalayers of BioMap and Living Waters Core Habitats are available for download from MassGIS: www.mass.gov/mgis

Check out www.nhesp.org for information on:

- Rare species in your town
- Rare species fact sheets
- BioMap and Living Waters projects
- Natural Heritage publications, including:
 - * Field guides
 - * Natural Heritage Atlas, and more!



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org

BioMap: Species and Natural Communities

Gosnold

Core Habitat BM1445

Vertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Coastal Waterbird Habitat		-----

Core Habitat BM1449

Plants

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Small Site for Rare Plant		

Core Habitat BM1450

Plants

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Bristly Foxtail	<i>Setaria parviflora</i>	Special Concern
Sand Bead-grass	<i>Paspalum setaceum</i> var. <i>psammophilum</i>	Watch Listed

Invertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Water-Willow Stem Borer	<i>Papaipema sulphurata</i>	Threatened

Core Habitat BM1451

Plants

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Canadian Sanicle	<i>Sanicula canadensis</i>	Threatened

Vertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Piping Plover	<i>Charadrius melodus</i>	Threatened



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org

BioMap: Species and Natural Communities

Gosnold

Core Habitat BM1453

Plants

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Small Site for Rare Plant		

Core Habitat BM1454

Plants

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Saltpond Grass	<i>Leptochloa fusca ssp. fascicularis</i>	Threatened

Invertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Water-Willow Stem Borer	<i>Papaipema sulphurata</i>	Threatened

Core Habitat BM1455

Plants

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Small Site for Rare Plant		

Core Habitat BM1456

Plants

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Bushy Rockrose	<i>Helianthemum dumosum</i>	Special Concern
Purple Needlegrass	<i>Aristida purpurascens</i>	Threatened
Saltpond Grass	<i>Leptochloa fusca ssp. fascicularis</i>	Threatened
Saltpond Pennywort	<i>Hydrocotyle verticillata</i>	Threatened

Invertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Water-Willow Stem Borer	<i>Papaipema sulphurata</i>	Threatened



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org

BioMap: Species and Natural Communities

Gosnold

Vertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
--------------------	------------------------	---------------

Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Threatened
---------------------	------------------------------	------------

Core Habitat BM1457

Vertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
--------------------	------------------------	---------------

Piping Plover	<i>Charadrius melodus</i>	Threatened
---------------	---------------------------	------------

Core Habitat BM1459

Plants

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
--------------------	------------------------	---------------

Small Site for Rare Plant		
---------------------------	--	--

Core Habitat BM1460

Plants

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
--------------------	------------------------	---------------

Bushy Rockrose	<i>Helianthemum dumosum</i>	Special Concern
----------------	-----------------------------	-----------------

Vertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
--------------------	------------------------	---------------

Four-toed Salamander	<i>Hemidactylium scutatum</i>	Special Concern
----------------------	-------------------------------	-----------------

Core Habitat BM1463

Plants

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
--------------------	------------------------	---------------

Broad Tinker's-Weed	<i>Triosteum perfoliatum</i>	Endangered
---------------------	------------------------------	------------

Bushy Rockrose	<i>Helianthemum dumosum</i>	Special Concern
----------------	-----------------------------	-----------------

Saltpond Pennywort	<i>Hydrocotyle verticillata</i>	Threatened
--------------------	---------------------------------	------------



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org

BioMap: Species and Natural Communities

Gosnold

Vertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Threatened
Least Tern	<i>Sterna antillarum</i>	Special Concern
Piping Plover	<i>Charadrius melodus</i>	Threatened
Spotted Turtle	<i>Clemmys guttata</i>	Special Concern

Core Habitat BM1465

Invertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Sensitive Rare Invertebrate		

Vertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Arctic Tern	<i>Sterna paradisaea</i>	Special Concern
Common Tern	<i>Sterna hirundo</i>	Special Concern
Leach's Storm-Petrel	<i>Oceanodroma leucorhoa</i>	Endangered
Least Tern	<i>Sterna antillarum</i>	Special Concern
Roseate Tern	<i>Sterna dougallii</i>	Endangered

Core Habitat BM1466

Plants

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Small Site for Rare Plant		

Core Habitat BM1467

Plants

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Bushy Rockrose	<i>Helianthemum dumosum</i>	Special Concern
Purple Needlegrass	<i>Aristida purpurascens</i>	Threatened



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org

BioMap: Species and Natural Communities

Gosnold

Pygmyweed	<i>Crassula aquatica</i>	Threatened
Saltpond Pennywort	<i>Hydrocotyle verticillata</i>	Threatened
Sea-Beach Knotweed	<i>Polygonum glaucum</i>	Special Concern

Invertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Chain Dot Geometer	<i>Cingilia catenaria</i>	Special Concern
Coastal Heathland Cutworm	<i>Abagrotis nefascia benjamini</i>	Special Concern
Purple Tiger Beetle	<i>Cicindela purpurea</i>	Special Concern
Water-Willow Stem Borer	<i>Papaipema sulphurata</i>	Threatened

Vertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Arctic Tern	<i>Sterna paradisaea</i>	Special Concern
Common Tern	<i>Sterna hirundo</i>	Special Concern
Eastern Box Turtle	<i>Terrapene carolina</i>	Special Concern
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Threatened
Least Tern	<i>Sterna antillarum</i>	Special Concern
Piping Plover	<i>Charadrius melodus</i>	Threatened
Roseate Tern	<i>Sterna dougallii</i>	Endangered

Core Habitat BM1475

Plants

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Saltpond Pennywort	<i>Hydrocotyle verticillata</i>	Threatened

Invertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Bank Tiger Beetle	<i>Cicindela limbalis</i>	Special Concern
Purple Tiger Beetle	<i>Cicindela purpurea</i>	Special Concern
Water-Willow Stem Borer	<i>Papaipema sulphurata</i>	Threatened



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org

BioMap: Species and Natural Communities

Gosnold

Vertebrates

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
American Oystercatcher		-----
Landbird Migration Habitat		-----
Least Tern	<i>Sterna antillarum</i>	Special Concern
Northern Harrier	<i>Circus cyaneus</i>	Threatened
Piping Plover	<i>Charadrius melodus</i>	Threatened



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org

BioMap: Core Habitat Summaries

Gosnold

Core Habitat BM1445

Vertebrates

The Weepeeket Islands support a breeding colony of Double-crested Cormorants, Herring Gulls, and Great Black-backed Gulls. These islands support, by far, the largest Double-crested Cormorant colony in the state. Potential threats to nesting coastal waterbirds include habitat alteration and loss, human disturbance, and predation. Annual protection from these threats is needed.

Core Habitat BM1450

Plants

A vigorous population of the Bristly Foxtail grass, a Species of Special Concern, is found here in unusually dry habitat for this species. Also present is a species of concern throughout the New England region, Sand Bead-grass.

Invertebrates

This Core Habitat includes a cluster of a half dozen small ponds and several smaller vernal pools with Water-willow that are habitat for the Water-willow Stem Borer moth, a Threatened species that is found nowhere in the world outside of Massachusetts. Although relatively small, this Core Habitat is located in a relatively undeveloped landscape and is less than 5 km from other Core Habitats which support this rare moth. This proximity allows for occasional dispersal of Water-willow Stem Borer moths among these areas, which is important to maintain a viable population of this species. This Core Habitat appears to be unprotected.

Core Habitat BM1451

Plants

A population of the Threatened Canadian Sanicle, a biennial plant of deciduous woods, is found in this Core Habitat.

Vertebrates

The beach at Jobs Neck, Naushon Island, supports breeding Piping Plovers. Potential threats to nesting coastal waterbirds include habitat alteration and loss, human disturbance, and predation. Annual protection from these threats is needed.

Core Habitat BM1454

Plants

One of only six populations of Saltpond Grass in the state is found along the broad shores of a salt pond in this Core Habitat.



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org

BioMap: Core Habitat Summaries

Gosnold

Invertebrates

This Core Habitat includes a few small ponds and nearby shallow, swampy wetlands with Water-willow that are habitat for the Water-willow Stem Borer moth, a Threatened species that is found nowhere in the world outside of Massachusetts. Although relatively small, this Core Habitat is located in a relatively undeveloped landscape and is less than 5 km from other Core Habitats which support this rare moth. This proximity allows for occasional dispersal of Water-willow Stem Borer moths among these three areas, which is important to maintain a viable population of this species. This Core Habitat appears to be unprotected.

Core Habitat BM1456

Plants

Saltpond Grass and Saltpond Pennywort are found here in high-quality examples of saltpond habitat. Also present is a very large population of the rare coastal Purple Needlegrass.

Invertebrates

This Core Habitat includes French Watering Place, a few smaller ponds, and nearby shallow, swampy wetlands with Water-willow that are habitat for the Water-willow Stem Borer moth, a Threatened species that is found nowhere in the world outside of Massachusetts. This Core Habitat is located in a relatively undeveloped landscape and is less than 5 km from other Core Habitats which support this rare moth. This proximity allows for occasional dispersal of Water-willow Stem Borer moths between these areas, which is important to maintain a viable population of this species. This Core Habitat appears to be unprotected.

Vertebrates

Grasslands within this Core Habitat provide breeding habitat for Grasshopper Sparrows. Continued management by burning, mowing, or grazing will be needed to prevent transition of these grasslands to shrublands via natural vegetation succession.

Core Habitat BM1457

Vertebrates

Crescent Beach provides nesting and feeding habitat for Piping Plovers. Potential threats to nesting coastal waterbirds include habitat alteration and loss, human disturbance (including dogs), and predation. Annual protection from these threats is needed.

Core Habitat BM1460

Plants

A population of the globally rare Bushy Rockrose, a plant of grasslands, is found within a portion of this Core Habitat.



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org

BioMap: Core Habitat Summaries

Gosnold

Vertebrates

This Core Habitat encompasses a complex of small freshwater wetlands, including a marsh formed by seepage from Westend Pond. The habitats here support a substantial island population of Four-toed Salamanders.

Core Habitat BM1463

This Core Habitat encompasses all of Pasque Island in Buzzards Bay. The island supports coastal grasslands, shrublands, and beaches that are important for Piping Plovers, Grasshopper Sparrows, and migrating birds. The Island's dry habitats also support the globally rare Bushy Rockrose.

Plants

A very high-quality population of the globally rare Bushy Rockrose is growing in an open, dry sandplain grassland and heathland. Also present in this community type is the Endangered Broad Tinker's-Weed.

Vertebrates

Pasque Island provides nesting habitat for Piping Plovers and, in some years, Least Terns on small sandy beaches at the eastern and western ends of the island. Grasshopper Sparrows nest in coastal grasslands that have not reverted to shrublands. Vegetation management, either burning, mowing, or grazing, will be necessary if suitable habitat for Grasshopper Sparrows is to be maintained over the long term. Elsewhere on the island, coastal shrublands provide important migration habitat for a variety of species of landbirds.

Core Habitat BM1465

Invertebrates

Penikese Island is important habitat for rare invertebrate species, one of which has inhabited Penikese Island for at least 80 years, and is globally imperiled and found nowhere in Massachusetts except the offshore islands. It is likely that Penikese Island is inhabited by other rare coastal moth species, such as the Dune Noctuid moth, the Drunk Apamea moth, the *Spartina* Borer moth, and other species.

Vertebrates

Penikese Island supports a diverse group of breeding coastal waterbirds, including: Common Terns, Arctic Terns, American Oystercatchers, Black-crowned Night-Herons, Snowy Egrets, Herring Gulls (one of the largest concentrations in the state), Great Black-backed Gulls, Leach's Storm-Petrels (one of only two known breeding sites in the state), and, occasionally, Roseate Terns. Potential threats to nesting coastal waterbirds include habitat alteration and loss, human disturbance, and predation. Annual protection from these threats is needed. The island also supports several species of breeding waterfowl and Virginia Rails, among other species. This Wildlife Sanctuary here is managed by the Massachusetts Division of Fisheries and Wildlife, and is the site of an ongoing tern restoration program.



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org

BioMap: Core Habitat Summaries

Gosnold

Core Habitat BM1467

This Core Habitat encompasses Nashawena Island in Buzzards Bay. It includes a diversity of habitat types, including coastal grasslands, shrublands, oak woodlands, coastal ponds, sandy beaches, and dune systems. This Core Habitat contains the second largest breeding population of Grasshopper Sparrows in New England. It also supports breeding coastal waterbirds, Eastern Box Turtles, and several rare species of plants, moths, and tiger beetles.

Plants

This Core Habitat contains extensive grasslands and supports two populations of the globally rare Bushy Rockrose. Also present along the shoreline are the rare Sea-Beach Knotweed and Saltpond Pennywort.

Invertebrates

Nashawena Island has a diversity of important habitats for rare invertebrates such as the Coastal Heathland Cutworm moth, the Chain Dot Geometer moth, and the Purple Tiger Beetle. These habitats include dunegrass grasslands, maritime shrublands, and pitch pine - scrub oak barrens. Shallow, seasonally flooded wetlands with Water-willow are inhabited by the Water-willow Stem Borer Moth, a Threatened species that is found nowhere in the world outside of Massachusetts. It is likely that Nashawena Island is inhabited by additional rare coastal moth species, such as the Dune Noctuid moth, the Drunk Apamea moth, the Spartina Borer moth, and other species.

Vertebrates

The island of Nashawena supports the second largest breeding population of Grasshopper Sparrows in New England, currently estimated at over 100 breeding pairs. The sparrows breed in the island's extensive coastal grasslands, which are gradually reverting to shrublands and will require active management, such as burning, mowing, or grazing, to maintain. The sandy beach at Quicks Hole is breeding habitat for Piping Plovers and, in some years, Least Terns and Common Terns. Nashawena Island also provides important coastal migration habitat for a variety of landbirds. Eastern Box Turtles occur on the island, and the wetlands scattered throughout the island may provide significant habitat for Spotted Turtles and Four-toed Salamanders as well.

Core Habitat BM1475

This Core Habitat, encompassing Cuttyhunk Island, contains a diversity of important coastal habitats for rare species of moths, tiger beetles, and plants. It also includes breeding habitat for coastal waterbirds, as well as breeding and migration habitats for a variety of different bird species. Most of the habitats on this island appear to be unprotected.

Plants

A population of the Threatened Saltpond Pennywort thrives in a coastal saltpond community within this Core Habitat.



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org

BioMap: Core Habitat Summaries

Gosnold

Invertebrates

Cuttyhunk Island has a diversity of important habitats for rare invertebrates such as the Water-willow Stem Borer moth (found in a variety of shallow wetlands where Water-willow grows), the Bank Tiger Beetle (inhabits sloping clay soils on the island's bluffs), and the Purple Tiger Beetle (found on flat, bare sand or clay soil). It is likely that Cuttyhunk Island is inhabited by additional rare coastal moth species such as the Dune Noctuid moth, the Drunk Apamea moth, the Spartina Borer moth, and other species.

Vertebrates

This Core Habitat includes breeding habitat for Piping Plovers, Least Terns, American Oystercatchers, and Spotted Sandpipers. A tiny freshwater marsh on Copicut Neck supports breeding Virginia Rails. Broods of Common Eider ducklings often swim and feed off Barge Beach in June and early July; their exact nesting locations are unknown. Woodlands and shrublands on the western portion of Cuttyhunk Island provide breeding habitat for birds characteristic of these habitats in coastal areas of southern New England and valuable migration habitat for many species of landbirds. Extensive shrublands interspersed with small wetlands and patches of grassland provide foraging habitat for Northern Harriers. Harriers probably also nest on this portion of Cuttyhunk.



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org

Living Waters: Species and Habitats

Gosnold

Core Habitat LW185

Plants

Common Name

Scientific Name

Status

Pinnate Water-Milfoil

Myriophyllum pinnatum

Special Concern

Core Habitat LW255

Plants

Common Name

Scientific Name

Status

Pinnate Water-Milfoil

Myriophyllum pinnatum

Special Concern



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org

Living Waters: Core Habitat Summaries

Gosnold

Core Habitat LW185

This small coastal pond contains one of the state's only extant populations of the Pinnate Water-Milfoil, a Threatened species. Native freshwater plants like Pinnate Water-Milfoil are an important component of aquatic ecosystems, providing habitat and nutrition for fishes and invertebrates, and adding oxygen to the water through photosynthesis.

Core Habitat LW255

This small coastal pond contains one of the state's only extant populations of the Pinnate Water-Milfoil, a Threatened species. Native freshwater plants like Pinnate Water-Milfoil are an important component of aquatic ecosystems, providing habitat and nutrition for fishes and invertebrates, and adding oxygen to the water through photosynthesis.



**Natural Heritage
& Endangered Species
Program**

Massachusetts Division of Fisheries and Wildlife
North Drive, Westborough, MA 01581
Tel: (508) 792-7270, Ext. 200 Fax: (508) 792-7821
<http://www.nhesp.org>

For more information on rare species and natural communities, please see our fact sheets online at www.nhesp.org

Help Save Endangered Wildlife!

Please contribute on your Massachusetts income tax form or directly to the



Natural Heritage &
Endangered Species Fund

To learn more about the Natural Heritage & Endangered Species Program and the Commonwealth's rare species, visit our web site at: www.nhesp.org.